

Kentucky Cabinet for Economic Development

Office of Commercialization and Innovation

Performance Report for
July 1, 2010 – June 30, 2011
Relating to the Kentucky Innovation Act



Submitted to:

Governor Steve Beshear,
the Legislative Research Commission,
and the Kentucky Innovation Commission
pursuant to KRS 154.12-278

Submitted by:

Gene Fuqua, Executive Director
Office of Commercialization and Innovation
Kentucky Cabinet for Economic Development



Cabinet for Economic Development

Office of Commercialization and Innovation

The Office of Commercialization and Innovation (formerly the Department of Commercialization and Innovation) is responsible for leading the efforts of the Kentucky Cabinet for Economic Development in creating a knowledge-based economy throughout the Commonwealth.

This annual report has been prepared and submitted per KRS 154.12-278, Paragraph 3(b) . . .

“The duties of the [Office] of Commercialization and Innovation shall include but not be limited to:

“Monitor the return on investments and effectiveness of the Kentucky Innovation Act initiatives as set forth in the Strategic Plan for the New Economy as approved by the Kentucky Innovation Commission, January 7, 2002, or as revised, and report annually prior to November 1 to the Kentucky Innovation Commission, the Governor, and the General Assembly.”

Executive Director Gene Fuqua and his staff thank the Governor and the General Assembly for their support of the efforts by the Cabinet and Office.

Overview

The Office of Commercialization and Innovation (OCI), formerly the Department of Commercialization and Innovation, has the mission to implement innovation-driven economic development strategies that encourage the innovative use of knowledge resources and investments in talent and infrastructure. This innovation-driven model is intended to complement, not replace, traditional cost-driven economic development efforts where incentives are awarded to companies in the form of land, labor and capital to attract or retain jobs.

Innovation and commercialization are critical to our nation's prosperity. Since 1945, about half of the growth in the U.S. Gross Domestic Product is related to the development of new technologies. Research by the Boston Consulting Group shows that innovation is becoming even more important to productivity growth as 75 percent of the increase in U.S. productivity since 1995 can be traced to innovation alone.

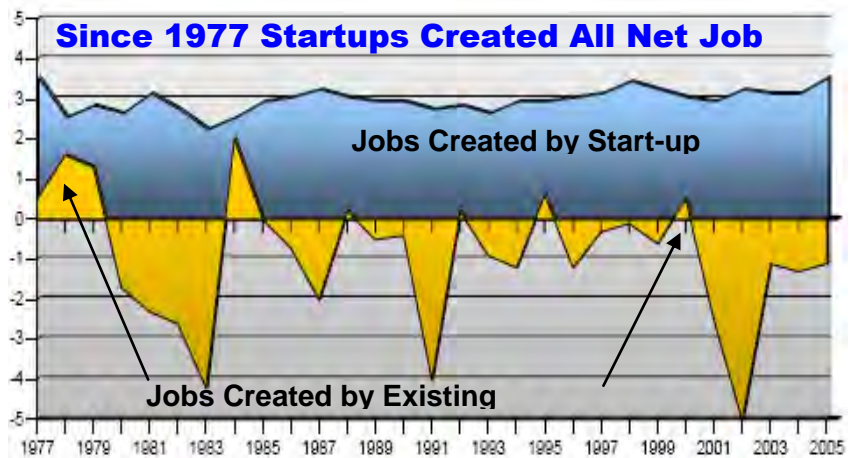
Innovation requires new ideas, which must be turned into new products, which depends greatly on start-up companies founded by entrepreneurs. These new companies, in turn, create new jobs. In fact, without startups, the Kauffman Foundation shows there would have been no net job growth in the U.S. since 1977.

Start-up and early-stage companies in Kentucky have benefited from funding programs provided by the Cabinet for Economic Development (CED). This funding has facilitated the creation of thousands of jobs over the life of these programs, including more than 2,800 new jobs by the Innovation and Commercialization Center Program, 200 new jobs by the SBIR-STTR Matching Funds Program, 950 new jobs by the High-Tech Pools fund, and 61.5 from the Commonwealth Seed Capital fund.

The high-tech jobs created directly by OCI-CED managed programs have also indirectly produced many more jobs in supporting sectors. The Milken Institute estimates that for every one job created in the biotechnology sector, for example, 5.7 jobs in other sectors are also created.

The following report summarizes the activities of OCI from July 1, 2010, through June 30, 2011.

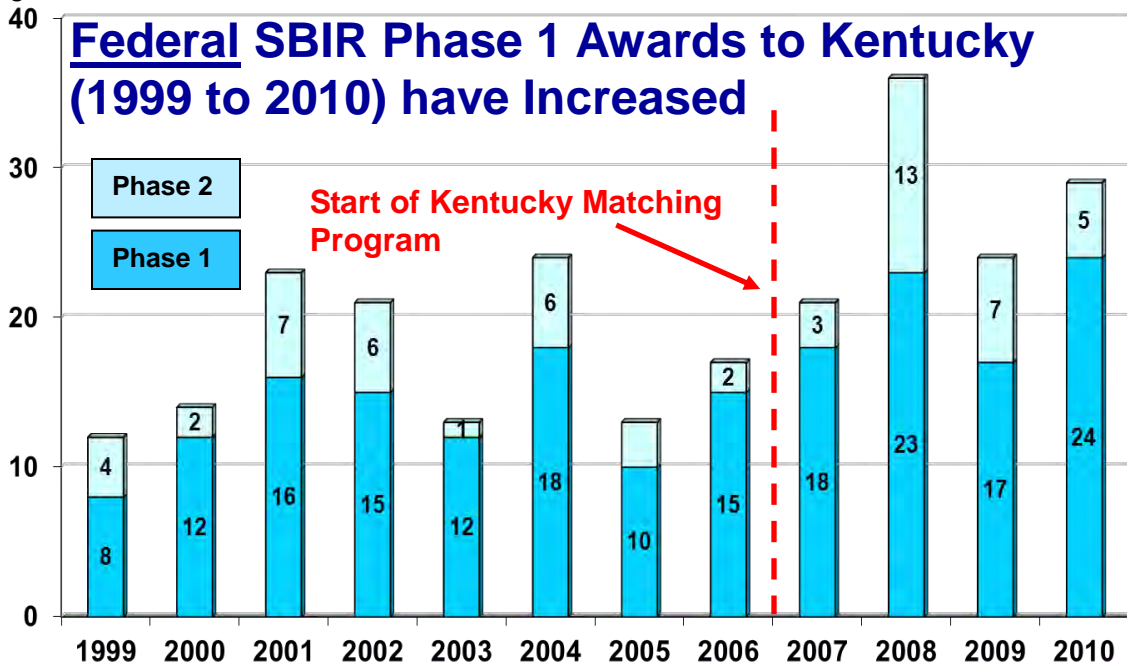
Note: This report marks a change of the OCI reporting period to a Fiscal Year to align with the July-through-June Fiscal Year observed by other state agencies and organizations in the Commonwealth.



Office of Commercialization and Innovation ACTIVITIES

SBIR-STTR Matching Funds Program

The Kentucky Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Matching Funds Program was implemented in November 2006 and continues to encourage small businesses to explore their technological potential and maximize profit from commercialization. The nationally advertised program, the first of its kind in the nation, matches both Phase 1 and Phase 2 federal awards received by Kentucky's small, high-tech businesses. This includes matching Phase 1 federal awards up to \$150,000 to support exploration of the technical merit or feasibility of an idea or technology. Phase 2 federal awards, which support full-scale research and development, are matched by Kentucky up to \$500,000 for up to two years. This has helped increase the number of Kentucky firms applying for, and receiving, federal awards:



Round	Date of Solicitation	Number of Applications	Number of Awards	Matching Funds Awarded	Federal Grant Funding
1	October 26, 2006-May 30, 2007	20	20	\$1,875,693	\$3,127,885
2	July 19, 2007- June 13, 2008	33	27	\$6,174,409	\$8,579,417
3	July 21, 2008- June 3, 2009	19	19	\$6,201,642	\$10,364,196
4	July 1, 2009- July 30 2009	11	5	\$1,431,706	\$2,375,372
5	October 1, 2009- November 16, 2009	13	9	\$2,199,989	\$4,664,101
6	January 4, 2010-February 1, 2010	8	5	\$794,983	\$1,295,254
7	April 1, 2010- April 30, 2010	6	7*	\$1,840,781	\$3,169,613
8	July 21, 2010- August 20, 2010	9	7	\$1,873,296	\$3,863,634
9	November 1, 2010- November 30, 2010	9	7	\$2,350,503	\$4,842,531
10	February 9, 2011- March 10, 2011	3	3	\$1,235,158	\$1,649,992
11	April 18, 2011- May 18, 2011	3	3	\$830,960	\$1,745,140
Totals		134	112	\$26,809,120	\$45,677,535

* One additional grant in this round was for a proposal that was submitted in Round 6. Solicitations are now issued quarterly and applications are reviewed by an independent panel of experts, rather than on a first-come, first-served basis.

Impact of the Kentucky SBIR-STTR Matching Funds Program (Rounds 1-11)

The Kentucky SBIR-STTR Matching Funds Program creates high-paying jobs, helps small businesses establish licensing agreements, and creates intellectual property.

Benefits to Date of Matching Funds Program (FY2006-2011)				
	Jobs Created	Licensing Agreements	Patents Filed	Out-of-State Firms Creating Kentucky Operations Due to Program
Rounds 1-11 To Date	200	8	50	12

Part-time jobs were converted to full-time equivalent units before totaling. Job definitions were not provided and all data was self-reported.

Firms That Established Operations in KY Due to Program

- Advanced Dynamics
- Transposagen Biopharmaceuticals
- NeoCytex Biopharma
- Turbo Wheelchairs
- Bexion Pharmaceuticals
- 3H Company
- ATI
- Louisville Bioscience
- nGimat
- Orthopeutics
- **Exatherm**
- **Global Quality Corp.**

From*

- Utah
- Pennsylvania
- Florida
- South Carolina
- Ohio
- Virginia
- West Virginia
- Oregon
- Georgia
- Texas
- Michigan (FY 2011)**
- Ohio (FY 2011)**

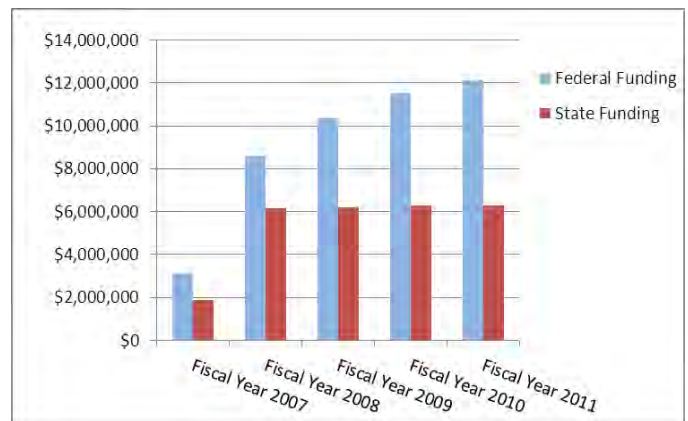
*Firm may have moved its entire operation or only the part associated with the federal SBIR-STTR award being matched by Kentucky.

Improved Success in Obtaining Federal SBIR and STTR Awards

The Kentucky SBIR-STTR Matching Funds Program began in October 2006 when Kentucky ranked 40th out of 50 states in number of Phase 1 and Phase 2 SBIR and STTR awards received. Just two years later, in 2008, Kentucky ranked 28th. While Kentucky has improved to about the average success rate of all states in winning the Phase 1 grants, Kentucky has far surpassed all states in winning Phase 2 grants (63.6% vs. the 33.7% national average) and in winning the Fast-Track SBIR-STTR grants, where both Phase 1 and Phase 2 grant applications are submitted and reviewed together, (33.3% vs. the 16.4% national average).

Since 2007, Kentucky has leveraged \$1.70 in federal awards for every \$1.00 awarded in state matching awards (\$45,677,535 in federal versus \$26,809,120 in state awards). The 12 companies that relocated to Kentucky have attracted federal funds from five federal agencies for a total of \$12,706,421 – funding that would have gone to other states if not for Kentucky’s program. The program is administered under contract to OCI by the Kentucky Science and Technology Corporation (KSTC).

Federal Dollars Leveraged Since Program Inception



SEE APPENDIX A FOR MATCHING FUNDS DATA (ROUNDS 1- 11)

Commonwealth Seed Capital

Commonwealth Seed Capital, LLC (CSC) is an independent, non-profit fund that makes debt or equity investments in early-stage Kentucky business entities to facilitate the commercialization of innovative ideas and technologies. Investments are typically made in specified innovation areas: health and human development; information technology and communications; biosciences; environmental and energy technologies; and materials science and advanced manufacturing. CSC invests in companies that have a significant Kentucky presence, the prospect for substantial growth, and the potential to generate an appropriate rate of return. CSC receives funding through the Kentucky Economic Development Finance Authority (KEDFA) and the Economic Development Partnership Board. OCI provides general management and other services to the Management Committee of CSC.

As of December 31, 2010*:

- \$6.27 million was invested in companies since June 2001 to create over 61.5 high-tech jobs at an average salary of \$71,965
- \$13.5 million invested in venture funds has resulted in investments by the funds of \$45,649,004 into 34 Kentucky companies
- \$3.39 million in distributions from investments have been received since 2005

**CSC numbers are reported to the state, and shown here, on a Calendar Year basis.*

SEE APPENDIX B FOR SUMMARY OF THE CSC PORTFOLIO

Kentucky New Energy Ventures Fund

The Kentucky New Energy Ventures Fund (KNEV) was created during an Extraordinary Session of the 2007 Kentucky General Assembly, which enacted House Bill 1 for the purpose of enabling Kentucky-based companies to undertake research, development, and commercialization in the field of alternative fuels and renewable energy. For example, Wellhead Energy Systems, in Somerset, received KNEV funds to help develop its GridFox units (right) that convert natural gas into electricity onsite at remote (“stranded”) wells, which lack pipeline access.

The Kentucky Science and Technology Corporation (KSTC) manages the \$5 million KNEV fund for investment in promising renewable and alternative energy companies in the Commonwealth under contract to OCI. Since 2008, 21 grants (\$630,000 committed) and seven investments (\$2.56 million committed) have been awarded to companies for a total of \$3,190,000 in KNEV funding. Of the 28 awards, 20 (71%) went to rural-based companies (based outside of Fayette and Jefferson counties).



SEE APPENDIX C FOR LIST OF KNEV FUND AWARDEES

High-Tech Pool Program

(Since February 2001)

\$15,853,000 for 48 Active Companies

Projecting 950 high-tech jobs by 2014 at an average salary of \$66,606

\$105,223,287 for 91 Projects

Examples of High-Tech Projects Funded

ConnectKentucky; Dataseam; Kentucky BioAlliance; Metacyte Accelerator; Coldstream Redundant Power (Kentucky Technology Inc.); Louisville Nucleus; SBIR-STTR Matching Funds Program; Kentucky New Energy Ventures Fund; Center for Pharmaceutical Science and Technology; Cardiovascular Innovation Institute; EKU Business and Technology Center; MedCenter 3; Bowling Green Center for R&D; Murray Business and Innovation Center; Kentucky Highlands Investment Corp. Incubator; and the Kentucky-Argonne Battery Manufacturing R&D Center.

Technology Focus Area	No. of Firms
Health & Human Development	10
Information Technology & Communications	13
Biosciences	11
Energy & Environmental Technology	4
Advanced Manufacturing / Materials Science	10
TOTAL	48

SEE APPENDIX D FOR ACTIVELY MONITORED RECIPIENTS OF HIGH-TECH POOL AWARDS

Innovation and Commercialization Center Program

OCI continued to manage the state's network of six regional Innovation & Commercialization Centers (ICCs) and seven affiliate Innovation Centers (ICs). These centers operate to increase the quality of investments flowing to knowledge-based firms throughout Kentucky. The network also increases statewide knowledge of entrepreneurship, start-up processes, and investment practices, while providing value-added services to existing businesses, startups, and the investment community. The program is administered under contract to OCI by the Kentucky Science and Technology Corporation (KSTC). The goal of the program is to increase the likelihood that high-growth, knowledge-based businesses can be started in Kentucky and obtain both public and private investments to develop and grow.

Performance Results Highlights (Per KSTC Fiscal 2011 Annual Report)

ICC Program Activities	FY2008	FY2009	FY2010	FY2011	FY08-11 Cumulative
New Companies	120	142	129	147	538
Sales Revenues	\$317M	\$504M	\$537M	\$572M	\$1.930B
Private Investments	\$79M	\$49M	\$150M	\$96M	\$374M
New Jobs (self-reported by firms)	791	660	606	750	2,807
Avg. Salary of Jobs (self-reported by firms)	\$48,370	\$48,750	\$54,666	\$57,159	\$52,236
Avg. Investment per Job	\$2,852	\$3,251	\$3,621	\$2,461	\$3,046

Some of the new jobs created by the ICCs and ICs are non-salaried positions held by company principals. In FY2011, 644 (86 percent) of the 750 new jobs were salaried positions.

Each salaried job contributes to the Commonwealth's tax-base at an estimated 6% of salary earned. With 644 paid jobs created in FY2011 alone, at an average salary of \$57,159 per job, the estimated payroll tax received in FY2011 from ICC Program job creation is approximately \$2.2 million. With an OCI investment of \$1.8 million in FY11, the Commonwealth achieves a positive return on investment in just 10 months. *This calculation is only one of many ways to determine return on investment. KSTC chose a personal income tax analysis to show there is a robust return on the state's investment even when calculated conservatively.*

Annual BIO State Pavilion and Governor's Reception

In June 2011, OCI and other Cabinet personnel coordinated the state's activities at the annual Biotechnology Industry Organization (BIO) international convention in Washington, DC, which attracted over 15,000 attendees. Fifteen economic development organizations and biotech start-up companies from across the Commonwealth exhibited in the Kentucky State Pavilion to promote their technologies and Kentucky's advantages for business. The 11th annual Kentucky Governor's Reception was held for invited guests, which provided many opportunities to promote the state's biotech activities. Governor Steve Beshear and a team of state officials attended and met with companies interested in doing business with and/or within the state.

Kentucky's expanded presence at international events, including BIO, is enhancing the Commonwealth's reputation throughout the global high-tech community – and paying off when high-tech companies, such as nGimat and Orthopeutics, choose to move to Kentucky. nGimat met with state officials at BIO 2009 in Atlanta and Orthopeutics met with state officials at BIO 2010 in Chicago. Both companies have since established operations in Kentucky.

Statewide Business Plan Competition

A fourth annual statewide "Idea State U" business concept and business plan competition was held April 22-23, 2011, among a combined 20 graduate and undergraduate student teams from Kentucky's public universities. The program supports entrepreneurship and the development of new high-growth ventures in Kentucky. The teams earned a combined \$100,000 in cash prizes and awards, making this one of the top state-sponsored business plan competitions in the nation. To compete, some of the universities expanded their business school programs and/or created entirely new

Congratulations to the Idea State U Class of 2011!

J. J. Adams, Entrepreneur and Consultant
Lynn Allen, Capital Innovations
John Clark, Clark Logistics
Bobby Clark, Sustainable Business Ventures
George Evans, Kentucky Seed Capital Fund

James Fights, Wind Energy Corporation
David Goodright, Bluegrass Angels
Steven A. Spaulding, Point-A Consulting
Richard Stone, iHealthInsure.com
Margaret van Tilbe, Int. OBOC Corp.
David O. Wilson, First Brown Trust

J. J. Adams, Bluegrass Marketing
Lynn Wagners, Bill Keaton Ogden
David Goodright, Bluegrass Angels

IDEA STATE U: WHERE KENTUCKY'S FUTURE ENTREPRENEURS COMPETE

You're looking at some of Kentucky's young entrepreneurs. They are graduate and undergraduate students from our state's public universities who formed 30 teams to participate in the fourth annual Idea State U competition. The intense two-day event, held April 22-23, 2011, in Lexington, was judged by some of Kentucky's most respected leaders from the business community.

The winning teams earned \$100,000 in combined prizes and awards for their innovative business concepts and business plans, which makes Idea State U one of the nation's top state-sponsored business plan competitions. The bulk of the prize money is only available to the top teams as reimbursement for expenses incurred to form and operate real-world companies, based on their entries, that create real jobs for Kentuckians. The competition was sponsored and managed by the Kentucky Cabinet for Economic Development.

Idea State U is helping find and support the next generation of Kentucky entrepreneurs and creating new jobs for Kentuckians statewide. Details on the competition and winning entries are available at www.ideastateu.com.

Kentucky
Cabinet for Economic Development
www.ThinkKentucky.com

LEARN MORE AT WWW.IDEASTATEU.COM

internal competitions to produce entries for the state competition. Each year a Governor's Innovation Award is presented to the team having the entry that demonstrates the most innovative and outside-the-box thinking. One entry in 2011 was by a venture developing a wireless sensor system to provide real-time "taken" or "open" data on parking spaces in large parking facilities. Another venture plans to develop a smart phone app to help hospitals communicate with people who take prescription medications after hospital stays.

APPENDIX A: SBIR-STTR Matching Funds Recipients: Rounds 1-11

Award Date	Company (in reverse chronological order)	Technology Area	Matching Grant
7/1/11	ATI, Inc.	Materials Science and Advanced Manufacturing	\$98,748
7/1/11	3H Company	Environmental and Energy Technologies	\$232,212
7/1/11	Advanced Genomic Technology	Health and Human Development	\$500,000
4/1/11	nGimat	Materials Science and Advanced Manufacturing	\$500,000
4/1/11	Orthopeutics	Health and Human Development	\$359,400
4/1/11	NaugaNeedles	Materials Science and Advanced Manufacturing	\$375,758
2/1/11	Alkymos	Biosciences	\$500,000
2/1/11	Advanced Energy Materials	Environmental and Energy Technologies	\$150,000
2/1/11	Alcomed	Health and Human Development	\$150,000
2/1/11	Scout Diagnostics	Biosciences	\$435,600
2/1/11	Global Quality Corp.	Information Technology and Communications	\$364,990
2/1/11	Louisville Biosciences	Biosciences	\$249,913
2/1/11	Bexion Pharmaceuticals	Health and Human Development	\$500,000
11/1/10	Transposagen Biopharmaceuticals	Biosciences	\$499,936
11/1/10	SureGene	Health and Human Development	\$365,579
11/1/10	Exatherm	Health and Human Development	\$500,000
11/1/10	ParaTechs Corp.	Health and Human Development	\$111,002
11/1/10	customKYnetics	Health and Human Development	\$147,783
11/1/10	NuForm Materials	Materials Science and Advanced Manufacturing	\$149,996
11/1/10	InfoBeyond Technology	Information Technology and Communications	\$99,000
7/1/10	Advanced Dynamics	Information Technology and Communications	\$364,999
7/1/10	Vindico NanoBioTechnologies	Health and Human Development	\$100,000
7/1/10	Advanced Genomic Technologies	Biosciences	\$100,000
7/1/10	Talon Technologies	Materials Science and Advanced Manufacturing	\$99,996
7/1/10	3H Company	Environmental and Energy Technologies	\$267,786
7/1/10	Orthopeutics	Biosciences	\$408,000
7/1/10	nGimat	Materials Science and Advanced Manufacturing	\$500,000
3/1/10	NaugaNeedles	Materials Science and Advanced Manufacturing	\$100,000
3/1/10	Atkins and Pearce	Environmental and Energy Technologies	\$99,983
3/1/10	Oraceuticals	Biosciences	\$100,000
3/1/10	Vision Dynamics	Materials Science and Advanced Manufacturing	\$100,000
3/1/10	TIER1 Performance Solutions	Information Technology and Communications	\$395,000
1/1/10	Topasol	Materials Science and Advanced Manufacturing	\$251,000
1/1/10	Pharmacogenetics Diagnostic Laboratory	Biosciences	\$375,000

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Award Date	Company (in reverse chronological order)	Technology Area	Matching Grant
1/1/10	NuForm Materials	Materials Science and Manufacturing	\$314,000
1/1/10	SCR	Health and Human Development	\$430,000
1/1/10	ApolImmune	Biosciences	\$430,000
1/1/10	Four Tigers	Human Health and Development	\$100,000
1/1/10	3H Company	Environmental and Energy Technologies	\$99,989
1/1/10	Transposagen Biopharmaceuticals	Human Health and Development	\$100,000
1/1/10	NaugaNeedles	Materials Science and Manufacturing	\$100,000
10/1/09	SureGene	Human Health and Development	\$361,939
10/1/09	EndoProtech	Human Health and Development	\$270,000
10/1/09	Vision Dynamics	Materials Science and Manufacturing	\$250,000
10/1/09	Louisville Biosciences	Biosciences	\$99,801
10/1/09	Adaptive Intelligent Systems	Materials and Advanced Manufacturing	\$449,966
6/1/09	Advanced Dynamics	Information Technology and Communications	\$99,917
5/1/09	ParaTechs	Human Health and Development	\$100,000
4/1/09	Transposagen Biopharmaceuticals	Biosciences	\$100,000
4/1/09	NeoCytex Biopharmaceuticals	Biosciences	\$100,000
3/1/09	TiER1 Performance Solutions	Information Technology and Communications	\$99,982
3/1/09	Synergetic Technologies	Materials Science and Advanced Manufacturing	\$99,666
2/1/09	ATI	Materials Science and Advanced Manufacturing	\$99,838
2/1/09	3H Company	Environmental and Energy Technologies	\$99,998
1/1/09	Bexion Pharmaceuticals	Biosciences	\$99,965
11/1/08	Advanced Intelligent Systems	Materials Science and Advanced Manufacturing	\$100,000
11/1/08	ApolImmune	Biosciences	\$100,000
10/1/08	ApolImmune	Biosciences	\$500,000
10/1/08	Naprogenix	Biosciences	\$199,000
10/1/08	SCR	Human Health and Development	\$500,000
10/1/08	Pharmacogenetics Diagnostic Laboratory	Biosciences	\$500,000
9/1/08	Adaptive Intelligent Systems	Materials Science and Advanced Manufacturing	\$599,678
9/1/08	customKYnetics	Human Health and Development	\$741,809
9/1/08	Mersive Technologies (D)	Information Technology and Communications	\$499,564
9/1/08	Turbo Wheelchairs Company	Human Health and Development	\$741,924
7/1/08	Allylix	Biosciences	\$100,000
7/1/08	NeoCytex Biopharmaceuticals	Biosciences	\$100,000
7/1/08	Sequela	Human Health and Development	\$965,273
7/1/08	Tova Industries	Information Technology and Communications	\$80,000

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Award Date	Company (in reverse chronological order)	Technology Area	Matching Grant
6/1/08	Alkymos	Human Health and Development	\$99,646
6/1/08	Atkins & Pearce	Materials Science and Advanced Manufacturing	\$88,900
6/1/08	Stallion Therapeutics	Human Health and Development	\$100,000
4/1/08	customKYnetics	Human Health and Development	\$100,000
4/1/08	Direct i2i	Information Technology and Communications	\$100,000
4/1/08	Peptides International	Biosciences	\$100,000
4/1/08	Adaptive Intelligent Systems	Materials Science and Advanced Manufacturing	\$100,000
3/1/08	Novera	Biosciences	\$846,500
3/1/08	Topasol	Materials Science and Advanced Manufacturing	\$99,100
3/1/08	NuForm Materials	Materials Science and Advanced Manufacturing	\$98,602
2/1/08	Vision Dynamics	Materials Science and Advanced Manufacturing	\$99,589
1/1/08	Assenti	Biosciences	\$374,985
1/1/08	Transposagen Biopharmaceuticals	Biosciences	\$1,000,000
1/1/08	Tribo Flow Separations	Biosciences	\$100,000
1/1/08	Advanced Dynamics	Information Technology and Communications	\$599,990
12/1/07	Alltranz	Human Health and Development	\$100,000
11/1/07	Pharmacogenetics Diagnostic Laboratory	Biosciences	\$100,000
11/1/07	Advanced Dynamics	Information Technology and Communications	\$99,999
10/1/07	SCR	Health and Human Development	\$100,000
10/1/07	Naprogenix	Biosciences	\$498,460
10/1/07	Naprogenix	Biosciences	\$100,000
10/1/07	ParaTechs	Biosciences	\$743,666
10/1/07	ApolImmune	Biosciences	\$100,000
7/1/07	Hosting.com (D)	Information Technology and Communications	\$100,000
7/1/07	Sequela	Health and Human Development	\$100,000
7/1/07	Scout Diagnostics	Health and Human Development	\$99,843
6/1/07	Wilson's Cedar Point Farms	Biosciences	\$79,729
5/1/07	Advanced Dynamics	Information Technology and Communications	\$99,900
4/1/07	Regenerex	Human Health and Development	\$100,000
4/1/07	Topasol	Materials Science and Advanced Manufacturing	\$78,000
4/1/07	Neathery Technologies	Environmental and Energy technologies	\$70,000
3/1/07	Oraceuticals	Health and Human Development	\$100,000
3/1/07	Naprogenix	Health and Human Development	\$100,000
3/1/07	Lumenware	Information Technology and Communications	\$100,000
3/1/07	Adaptive Intelligent Systems	Materials Science and Advanced Manufacturing	\$69,999

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Award Date	Company (in reverse chronological order)	Technology Area	Matching Grant
3/1/07	ParaTechs	Biosciences	\$80,000
3/1/07	Potentia Pharmaceuticals	Health and Human Development/Biosciences	\$100,000
3/1/07	SureGene	Health and Human Development	\$100,000
3/1/07	ECM Biosciences	Biosciences	\$100,000
3/1/07	ApolImmune	Biosciences	\$100,000
3/1/07	Mersive Technologies (D)	Information Technology and Communications	\$98,222
3/1/07	SCR	Human Health and Development	\$100,000
3/1/07	customKYnetics	Human Health and Development	\$100,000
Total for 112 State Matching Grants:			\$26,809,120

(D) = Company defaulted on agreement. The Cabinet is pursuing legal remedies.

APPENDIX B: Commonwealth Seed Capital Funding

KEDFA has contributed \$20.8 million to CSC since June 2001. As of June 30, 2011, CSC had funded \$16.5 million of its \$20.3 million in committed capital. This table shows CSC's investment activity from inception through June 30, 2011.

Commonwealth Seed Capital - Portfolio Summary

(From inception through June 30, 2011)

Investment (Year of Investment)	Commitments	Funded to Date	Distributions paid to CSC to Date	Follow-on reserved, but NOT committed
<u>Company Investments</u>				
Adaptive Technologies (2007)	\$ 200,000	\$ 200,000	\$ -	\$ 200,000
Advanced Cancer Therapeutics (2009 / 2010)	\$ 500,000	\$ 500,000	\$ -	\$ -
ApoVax (formerly ApoImmune) (2005 / 2009)	\$ 500,000	\$ 500,000 (a)	\$ -	\$ -
Alltranz (2007)	\$ 350,000	\$ 250,000	\$ -	\$ -
Allylix (2005)	\$ 500,000	\$ 500,000	\$ -	\$ -
IF Technologies (2009)	\$ 500,000	\$ 250,000	\$ -	\$ -
Ikano Therapeutics (formerly Intranasal Technology) (2005 / 2009)	\$ 1,165,000	\$ 1,165,000	\$ -	\$ -
Intrepid BioInformatics (2010)	\$ 125,000	\$ 125,000	\$ -	\$ -
Jacobs Automation (2011)	\$ 250,000	\$ 250,000	\$ -	\$ 250,000
Nomad (2008)	\$ 250,000	\$ 250,000	\$ -	\$ -
NX PharmaGen (Pending)	\$ 250,000	\$ -	\$ -	\$ 250,000
Orthodata (2008)	\$ 250,000	\$ 250,000	\$ -	\$ 250,000
ParkVu (2010)	\$ 250,000	\$ 250,000	\$ -	\$ 250,000
Pradama (2007)	\$ 250,000	\$ 250,000	\$ -	\$ 250,000
Resonant Vibes (2008)	\$ 250,000	\$ 250,000	\$ -	\$ -
Seikowave (2011)	\$ 100,000	\$ 100,000	\$ -	\$ 100,000
Vivorte (Pending)	\$ 250,000	\$ -	\$ -	\$ 250,000
Subtotal - Company Investments	\$ 5,940,000	\$ 5,090,000	\$ -	\$ 1,800,000
<u>Company Convertible Notes</u>				
AllTranz (2010)	\$ 150,000	\$ 150,000	\$ -	\$ -
Nomad (2010)	\$ 110,000	\$ 110,000	\$ -	\$ -
Planet Biotechnology (2004)	\$ 500,000	\$ 500,000	\$ 650,272	\$ -
RhinoCyte (2008 / 2009)	\$ 420,000	\$ 420,000	\$ -	\$ -
Subtotal - Company Loans	\$ 1,180,000	\$ 1,180,000	\$ 650,272	\$ -
Total Company Investments and Convertible Notes	\$ 7,120,000	\$ 6,270,000	\$ 650,272	\$ 1,800,000
<u>Fund Investments</u>				
Bluegrass Angel Venture Fund (2005)	\$ 1,000,000	\$ 1,000,001	\$ 144,366	\$ -
Bluegrass Angel Venture Fund II (2010)	\$ 716,000	\$ 200,000	\$ -	\$ -
Chrysalis Ventures II, LP (2002)	\$ 2,000,000	\$ 2,000,000 (b)	\$ 1,337,632 (b)	\$ -
Chrysalis Ventures III, LP (2007)	\$ 3,000,000	\$ 2,379,264	\$ -	\$ -
Kentucky Seed Capital Fund, LP (2005)	\$ 1,000,000	\$ 750,000	\$ -	\$ -
River Cities Capital Fund III, LP (2002)	\$ 2,000,000	\$ 2,000,000	\$ 1,848,445	\$ -
River Cities Capital Fund IV, LP (2008)	\$ 2,000,000	\$ 1,420,000	\$ -	\$ -
Triathlon Medical Venture Partners II, LP (Pending)	\$ 1,000,000	\$ -	\$ -	\$ -
Yearling Fund I, LP (2005)	\$ 500,000	\$ 500,000	\$ 99,147	\$ -
Subtotal - Fund Investments	\$ 13,216,000	\$ 10,249,265	\$ 3,429,591	\$ -
TOTAL	\$ 20,336,000	\$ 16,519,265	\$ 4,079,863	\$ 1,800,000

(a) The ApoVax investment included a note in the amount of \$250,000 that was converted to stock as of December 31, 2010.

(b) The CVII "Funded to Date" and "Distributions" amounts include retained portions of a prior distribution totaling \$65,985.

Capital Contribution		\$ 20,800,000.00
Less Cash for Projects:		
Funded Commitments	\$ (16,519,265.18)	
Unfunded Commitments	\$ (3,816,734.82)	
Reserve for Follow-on	\$ (1,800,000.00)	\$ (22,136,000.00)
Plus Cash from Projects:		
Distributions and Investment Returns	\$ 3,429,590.64	
Note/Loan Repayments	\$ 650,272.00	\$ 4,079,862.64
Operating Income/Expenses:		
Interest Received	2,566,447.26	
Expenses Paid	(2,021,312.15)	545,135.11
Total Available for Investment (net of reserve)		\$ 3,288,997.75

APPENDIX C: Kentucky New Energy Ventures Fund Awardees through June 30, 2011

Company Name	Technology Focus	County	Grant/ Investment	Award	Private Matching Investment	Status
Wind Energy Corporation	Wind	Hardin	Investment	\$750,000	\$3,750,000	Active
Louisville Clean Energy	Biofuels	Jefferson	Investment	\$250,000	\$4,350,000	Active
Neathery Technologies	Biofuels	Fayette	Grant	\$30,000	\$30,000*	Completed
Kentucky Renewable Energy	Biofuels	McCracken	Grant	\$30,000	\$30,000*	Completed
Thermobaric Energy Systems	Alternative Energy	Hopkins	Grant	\$30,000	\$30,000*	Completed
RE Strategies	Biofuels	Woodford	Grant	\$30,000	\$30,000*	Completed
Kozo Saito, UKRF	Biofuels	Fayette	Grant	\$30,000	\$30,000*	Completed
Genesis Development of Kentucky	Wind	Pike	Grant	\$30,000	\$30,000*	Completed
Kentucky BioFuels	Biofuels	Daviess	Grant	\$30,000	\$30,000*	Completed
Apple Hearth & Home	Wind	Jefferson	Grant	\$30,000	\$30,000*	Agreement Terminated
CNG Energy	Alternative Energy	Pike	Grant	\$30,000	\$30,000*	Agreement Terminated
Planta BioProducts	Biofuels	Daviess	Grant	\$30,000	\$30,000*	Withdrew
Pilus Energy	Biofuels	Kenton	Investment	\$250,000	\$250,000	Award Withdrawn
Highland Biofuels	Biofuels	Carter	Investment	\$500,000	\$660,000	Active
Critical Energy Corporation	Solar	Wolfe	Grant	\$30,000	\$30,000*	Completed
Nooyen Manufacturing	Biofuels	Montgomery	Grant	\$30,000	\$30,000*	Agreement Terminated
XtremeCarbons	Alternative Energy	Fayette	Grant	\$30,000	\$30,000*	Completed
West Wind Power	Wind	Jefferson	Grant	\$30,000	\$30,000*	Completed
Commonwealth Biofuels	Biofuels	Garrard	Grant	\$30,000	\$30,000*	Completed
East Kentucky Biodiesel	Biofuels	Floyd	Grant	\$30,000	\$30,000*	Completed
Oorjaa (formerly PHYchip)	Alternative Energy	Jefferson	Grant	\$30,000	\$30,000*	Agreement Terminated
Topasol	Solar	Fayette	Grant	\$30,000	\$30,000*	Completed
Bio Energy Farms	Biofuels	Franklin	Grant	\$30,000	\$30,000*	Completed
Southeast Biofuels	Biofuels	Montgomery	Grant	\$30,000	\$30,000*	Completed
Wellhead Energy Systems	Biofuels	Pulaski	Investment	\$500,000	\$1,500,000	Active
2nd Generation Wind	Wind	Jessamine	Grant	\$30,000	\$30,000*	Agreement Terminated
ecoPower Generation	Biofuels	Perry	Investment	\$250,000	\$1,664,250	Active
Commonwealth Biofuels	Biofuels	Garrard	Investment	\$60,000	\$60,000	Active

*Denotes that company's private matching investment funds are in-kind contributions

APPENDIX D-1: New Companies Funded from the High-Tech Pools by OCI since July 1, 2010

The primary goal of the Office of Commercialization and Innovation (OCI) is to support the creation and retention of high-tech businesses and jobs throughout the Commonwealth of Kentucky. OCI administers two investment pools from which funds are used to support projects. All funding must be approved by the Kentucky Economic Development Finance Authority (KEDFA). For July 2010 through June 2011, the total funding recommended by OCI and approved by KEDFA was \$2,230,000, supporting 13 high-tech companies and 166 high-tech jobs with an average salary over \$64,000.

Companies Funded from the High-Tech Pools by OCI July 1, 2010 to June 30, 2011				
Company (in alphabetical order)	Technology Focus Area	High-Tech Jobs to be created	Average Salary	Award
Bexion, LLC	HHD	7	\$77,000	\$155,000
Corning	AM/MS	28	\$72,000	\$250,000
Escent Technologies, LLC	IT	13	\$70,000	\$200,000
Frogdice	IT	7	\$49,000	\$80,000
Hitcents	IT	10	\$53,000	\$150,000
NaugaNeedles	AM/MS	7	\$62,000	\$100,000
nGimat, LLC	AM/MS	18	\$58,500	\$250,000
Pharmacogenetics Diagnostic Laboratory (PGXL)	HHD	19	\$61,000	\$200,000
Pure Power Technologies	EET	10	\$82,500	\$100,000
Remington	AM/MS	13	\$59,500	\$200,000
Transposagen Biopharmaceuticals	B	16	\$58,750	\$250,000
Vivorte, LLC	HHD	7	\$72,000	\$120,000
ZoomEssence, Inc.	AM/MS	11	\$67,000	\$175,000
TOTAL		166		

HHD = Health & Human Development
IT = Information Technology & Communications
B = Biosciences
EET = Energy & Environmental Technology
AM/MS = Advanced Manufacturing / Material Science

Specific companies funded in FY2011 were (in alphabetical order):

Bexion Pharmaceuticals

Founded in 2006, Bexion Pharmaceuticals is developing a first-in-class biologic product with the potential to treat a broad range of human cancers. This biologic product, for which Bexion holds exclusive licenses, is a technology based on research performed at the Cincinnati Children's Hospital. In September, 2010, Bexion won a prestigious partnership with the Nanotechnology Characterization Laboratory of the National Cancer Institute to support the ongoing development of this technology. Bexion's anti-tumor product is referred to as SapC-DOPS, a liposomal-coupled lysosomal Saposin C protein. Beyond intrinsic anti-tumor activity, SapC-DOPS has very strong potential as a diagnostic imaging reagent and tumor targeting drug delivery vehicle. However, the company's initial interests are in the treatment of glioblastoma (a type of brain tumor) and

pancreatic cancers. SapC-DOPS targets and induces cell death preferentially in cancer cells, and appears not to affect normal cells.

Corning

Corning Inc. has a flat-glass manufacturing facility using a continuous draw fusion process initially developed for liquid crystal displays and now for manufacturing Gorilla Glass, a thin, highly scratch-resistant cover glass with extensive application in portable and handheld electronic devices. The company converted one glass production tank to develop the parameters and process for manufacturing this glass along with conducting research and development for rolling the glass onto spools.

Escent Technologies

The mission of Escent Technologies, LLC is to acquire, research, develop and commercialize products based on the science of spectroscopy and other proprietary technology. Its current research and product line are based on a technology and innovation in the field of spectrometry licensed from the University of Kentucky. The key innovation is an analysis algorithm called Spectroscopic Integrated Computational Sensing (SICS). In combination with ultraviolet, visible, and infrared laser and/or light emitting diode (LED) arrays, SICS is used to identify chemical markers in organic substances. By using LED arrays with SICS, a small tool that enables onsite analysis and near real-time results could be created at a competitive price point. Initially, Escent will engage the law enforcement market with a portable, hand-held device capable of identifying unknown substances (e.g., pills and powders). However, other potential markets for this platform technology include food safety, raw material analysis, environmental and medical applications.

Frogdice

Frogdice develops online, freemium games (where the basic game is free and premium features are available for a fee). Frogdice's core competencies include expertise with the most promising business model in the current gaming market, the ability to build strong communities and customer loyalty, and the ability to successfully target otherwise untapped segments of the market (e.g., female gamers, role players). The company has been profitable since 1996 and claims more than 300,000 customers have experienced and enjoyed their games. Frogdice is expanding to produce more games in a shorter time. This expansion will require more programmers, more computer graphic artists, hardware and software licenses.

Hitcents.com

Hitcents.com, Inc. (Hitcents) was founded in 1999 to create website advertising for other companies and then expanded into software development and other IT-related projects. Partnering with Pan-Oston in 2006, Hitcents developed a self-scan device, creating self-checkout devices. In August 2007, Hitcents was named to the Inc. 500 list of fastest growing companies in America. In 2006, Hitcents started research and development on an enterprise resource planning (ERP) system called Omniprise and introduced it in 2011. Based on cloud computing, the proprietary Omniprise ERP solution allows companies to reduce waste, cut costs and increase productivity. Omniprise also incorporates a back-end application programming interface that allows companies with an IT department to integrate additional systems into their database.

NaugaNeedles

NaugaNeedles, LLC is a supplier of high-performance, durable, low-cost and customized probes for use in scanning probe microscopy (SPM), as well as for nano-force and nano-bio sensors in research and industrial applications. The company was founded in 2007 to develop and commercialize a platform technology discovered at the University of Louisville's Electro Optics Research Institute and Nanotechnology Center. Invisible to the naked eye, the company's Needleprobes are capable of probing objects, such as a single cell, to produce images with greater detail than standard probes. NaugaNeedles has an exclusive license on a nanofabrication platform technology from the University of Louisville. This unique technology enables growing individual metallic nanoneedles in almost any location and orientation. The company is also developing a batch-fabrication method to produce many needles simultaneously to reduce production costs.

nGimat

nGimat, LLC is a subsidiary of nGimat Co. (based in Georgia), which specializes in the processing and application of nano-engineered materials. By using its proprietary NanoSpray Combustion process, the company makes nanostructured thin films and nanopowder products that are employed in a diverse set of industries, including energy storage and conversion, RF electronics, food packaging and coatings. nGimat sells to and works with industry leaders in the lithium-ion battery, food packaging, automotive, RF and industrial materials industries. nGimat is developing advanced lithium titanate energy storage nanomaterials for lithium-ion batteries that will power advanced automotive platforms, such as plug-in hybrid electric vehicles and also enable electrical energy storage components for the emerging smart-grid. nGimat will establish a scaled-up nanopowder production facility in the Lexington area that will use the company's proprietary nanopowder production system.

Pharmacogenetics Diagnostic Laboratory (PGXL)

PGXL is a five year-old company that is a leader in the emerging field of pharmacogenetic testing, one of the basic building blocks in the rapidly growing field of personalized medicine. PGXL identifies and reports genetic markers affecting the treatment of diseases and disorders. Physicians can take into account those markers and determine how patients will react to certain commonly prescribed medications, decreasing the number of costly adverse drug reactions and increasing the effectiveness of prescribed therapeutic drug regimens. PGXL provides genetic testing for hospitals, clinics, physicians and the developers of pharmaceuticals and clinical diagnostics. To facilitate the adoption of pharmacogenetics (and personalized medicine), PGXL is developing two different types of technology. First, PGXL has developed PerMIT, a patented software application that combines genetic and other patient information to make it easy for physicians to design an individualized treatment plan. Second, PGXL developed novel diagnostic modalities that combine expensive and complicated tests into a single, easily interpreted assay. This both lowers costs and makes it easier for physicians to apply genetic information in their clinical practice. PGXL has already developed a proprietary assay for use in cardiology, and is developing two other assays for psychiatrists.

Pure Power Technologies

Pure Power Technologies, LLC is focused on developing the next generation of clean engine control and emissions management solutions. The company is a wholly-owned subsidiary of Navistar, Inc. and was launched in January 2010. Pure Power will be performing research and development on actuation systems for valves and throttles that are used in diesel engine applications as well as in automotive applications.

Remington Arms Company

Remington Arms Company, Inc. is wholly-owned by FGI Operating Company, Inc., which is part of Cerberus Capital Management. Headquartered in North Carolina, Remington designs, produces and sells sporting goods products for the hunting and shooting sports markets, as well as the military, government and law enforcement markets. Remington is the only U.S. manufacturer of both firearms and ammunition products and one of the largest domestic producers of shotguns and rifles. The company distributes its products throughout the U.S. and in over fifty-six foreign countries. Remington plans to co-locate FGI brands' R&D into Elizabethtown. It will require additional technical staff, as well as an investment in the facility and equipment. The state funding will enable Remington to advance its firearms research for both military and sporting purposes.

Transposagen Biopharmaceuticals

Transposagen Biopharmaceuticals, Inc., is the worldwide leader in the creation of unique knockout rat models, which mimic human diseases and are used for drug discovery and development research. The production of animal models is a \$1.2 billion per year market and is expected to grow 12 percent annually through 2012. At the end of March 2009, Transposagen had listed on its public database over 70 different knockout rat lines. The majority of the world's knockout rat lines have been created using Transposagen's technology.

Vivorte

Vivorte was founded in 2007 and has two technologies in development: a bone replacement material that will enable better healing of bones following trauma and a small implant that will protect hips from fractures for people living with osteoporosis. The company's novel bone graft substitute is designed to address the industry's need for a material that is both strong and resorbs into the body as new bone grows in its place. Vivorte's small titanium implant is designed to strengthen the hip for people with osteoporosis with the goal of reducing the occurrence of hip fractures. Patent applications have been filed for both technologies and Vivorte holds options for exclusive licenses to both technologies.

ZoomEssence

ZoomEssence, Inc. was established in December 2008 to develop products and processes for spray drying, which is commonly used in the food and beverage, pharmaceutical, chemical and other industries. The typical spray drying process employs air heated up to 400° F to dry a liquid into a powder. Since heat is detrimental to many high-value products, ZoomEssence has developed the capability to atomize (spray) liquids with a wide range of viscosities using less water in the mixture and thus eliminating the need for heat, which results in powdered products that are identical to their liquid counterparts. This "green" approach significantly reduces energy consumption and substantially reduces costs since energy accounts for up to 30 percent of the operating cost of a traditional spray dryer. In addition to better taste and scent, the new atomization process allows for more variation in particle sizes, achieves better stability as a result of more complete encapsulation and delivers significantly better economics than existing processes.

**APPENDIX D-2: Companies and projects funded by OCI prior to July 1, 2010,
and in active monitoring status as of June 30, 2011**

Company (Fiscal Year of Award)	Focus Area	High-Tech Jobs to be created	Average Salary	Award
Alltech (2006)	B	40	\$54,375	\$1,000,000
ApoVax (formerly Apolimmune) (2006)	B	30	\$40,000	\$500,000
Secat (2006)	AM/MS	3	\$50,000	\$850,000
US World Meds (2007)	B	76	\$91,130	\$1,300,000
Aspen (2007)	AM/MS	40	\$50,000	\$500,000
Peptides International (2007)	B	7	\$56,000	\$175,000
Tap Logic (2007)	IT	68	\$47,785	\$500,000
Alltranz (2007)	B	30	\$80,000	\$500,000
Creosalus (2008)	B	41	\$80,000	\$750,000
BAE Systems (2008)	AM/MS	58	\$72,241	\$750,000
SureGene (2008)	HHD	30	\$97,000	\$510,000
Corevalus Systems (2008)	IT	18	\$66,000	\$300,000
Conexus (2008)	IT	14	\$58,000	\$238,000
Smoothstone IP Communications (2008)	IT	20	\$67,000	\$500,000
3DR Laboratories (2008)	IT	10	\$62,000	\$250,000
dbaDIRECT (2008)	IT	19	\$75,000	\$469,000
Leancor (2008)	IT	14	\$55,000	\$350,000
Matrix Engineering (2008)	EET	20	\$55,500	\$500,000
Advanced Cancer Therapeutics (2008)	HHD	11	\$103,000	\$187,000
Sud-Chemie (2009)	EET	20	\$72,000	\$500,000
Lending Cycle (2009)	IT	7	\$61,000	\$119,000
Transposagen Biopharmaceuticals (2009)	B	13	\$57,500	\$325,000
MedX12 (2009)	IT	14	\$61,500	\$160,000
NaugaNeedles (2009)	AM/MS	7	\$64,000	\$120,000
PHD Diagnostics (2009)	HHD	10	\$51,000	\$200,000
Gryphon Environmental (2010)	EET	7	\$50,000	\$100,000
Jacobs Automation (2010)	AM/MS	9	\$65,000	\$150,000
Laboratory and Biodiagnostics (LabDx) (2010)	HHD	18	\$64,500	\$250,000
Louisville Bioscience (2010)	HHD	18	\$70,000	\$250,000
Summit Biosciences (2010)	HHD	17	\$ 64,000	\$250,000
HFL Sport Science (2010)	B	25	\$ 47,400	\$425,000
Xhale, Inc (2010)	HHD	13	\$ 55,000	\$175,000
Connected Patients (2010)	IT	8	\$ 61,000	\$100,000
ParaTechs Corporation (2010)	B	7	\$ 55,000	\$120,000
Martek Biosciences - RETENTION project (2010)	B	42	\$ 85,500	\$250,000
Project (Fiscal Year of Award)				
Kentucky Highlands Investment Corp. (2009)		7	\$50,000	\$100,000
Sloan Cntr for Sustainable Aluminum Ind. (2005)		N/A	N/A	\$150,000
Kentucky Technology Inc. (2009)		N/A	N/A	\$5,500,000
WKU Small Business Accelerator (2006)		156	\$59,925	\$423,500
NKU Infrastructure Management Institute (2006)		54	\$78,606	\$332,710
NKU Risk Management Program (2006)		7	\$50,000	\$276,973
TOTAL PROJECTED JOBS		791 (not incl. bold)		
HHD = Health & Human Development; IT = Information Technology & Communications; B = Biosciences; EET = Energy & Environmental Technology; AM/MS = Advanced Manufacturing / Material Science				
Jobs and salaries in BOLD were not required as part of the funding agreement and are self-reported by awardees.				

APPENDIX D-3: Companies Withdrawing During the Reporting Period

Data Futures

Ischemia Care

Waterway Innovations